WHAT IS CLAIMED IS:

1. A fluorogenic PHEX substrate comprising

a peptide unit;

a fluorophore unit capable of conferring fluorescence on said substrate attached to an amino acid residue at a first end of the peptide unit; and

a quencher unit capable of providing intramolecular quenching of said fluorescence attached to an amino acid residue at a second end of the peptide unit;

the peptide unit having at least 6 amino acids residues including a sequence P_2-P_1-P_1'-P_2' of 4 amino acid residues at positions P_2, P_1, P_1' and P_2' of the peptide unit, respectively; the amino acid residue at position P_2 being any amino acid residue; the amino acid residue at position P_1 being any amino acid residue except an isoleucine, a valine, or a histidine residue; the amino acid residue at position P_1' being an acidic amino acid residue selected from the group consisting of a glutamic acid residue and an aspartic acid residue, and being located at least 2 amino acid residues distal to both the fluorophore and the quencher units; the amino acid residue at position P_2' being any amino acid residue except a leucine, a proline or a glycine residue, with the proviso that said peptide unit does not have the sequence as set forth in SEQ ID NO:1.

2. A fluorogenic PHEX substrate as recited in claim 1, wherein said amino acid residue at position P_1' is aspartic acid.

3. A fluorogenic PHEX substrate as recited in claim 1 or claim 2, wherein said amino acid residue at position P_2' is selected from the group consisting of a hydrophobic, an acidic and a polar amino acid residues.

4. A fluorogenic PHEX substrate as recited in any one of claims 1 and 2, wherein said amino acid residue at position P_2' is selected from the group consisting of an asparagine, a glutamine, a methionine, an alanine, a valine, a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine, and an isoleucine residues.

5. A fluorogenic PHEX substrate as recited in any one of claims 1 and 2, wherein said amino acid residue at position P_2' is selected from the group consisting of a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine and an isoleucine residues.

6. A fluorogenic PHEX substrate as recited in any one of claims 1 to 5, wherein said amino acid residue at position P_2 is not an arginine, a lysine, an asparagine or a glutamine residue.

7. A fluorogenic PHEX substrate as recited in any one of claims 1 to 6, wherein said P_2-P_1-P_1'-P_2' is as set forth in SEQ ID NO:2.

8. A fluorogenic PHEX substrate as recited in any one of claims 1 to 7, wherein the fluorophore unit is Abz and the quencher unit is Dnp, and wherein Dnp is attached to a lysine residue.

9. A fluorogenic PHEX substrate having the chemical structure Abz-(SEQ ID NO:3)-Dnp .

10. A method for identifying a PHEX modulator comprising

contacting a candidate compound with PHEX in the presence of a PHEX substrate, said substrate including a peptide unit of at least 6 amino acids residues including a sequence P_2-P_1-P_1'-P_2' of 4 amino acid residues at positions P_2, P_1, P_1' and P_2' of the peptide unit, respectively; the amino acid residue at position P_2 being any amino acid residue; the amino acid residue at position P_1 being any amino acid residue except an isoleucine, a valine, or a histidine residue; the amino acid residue at position P_1' being an acidic amino acid residue selected from the group consisting of a glutamic acid and an aspartic acid residue; the amino acid residue at position P_2' being any amino acid residue except a leucine, a proline or a glycine residue, with the proviso that said peptide does not have the sequence as set forth in SEQ ID NO:1;

detecting a product resulting of the PHEX enzymatic activity on said substrate; and

wherein a difference in the amount of said product detected in the presence of said candidate compound as compared to that in

the absence thereof is an indication that said candidate compound modulates PHEX.

11. A method as recited in claim 10, wherein said PHEX substrate further comprises a fluorophore unit capable of conferring fluorescence on said substrate, said fluorophore unit being attached to an amino acid residue at a first end of the peptide unit, and a quencher unit capable of providing intramolecular quenching of said fluorescence, said quencher unit being attached to an amino acid residue at a second end of the peptide unit, wherein P_1' is located at least 2 amino acid residues distal to both the fluorophore unit and the quencher unit and wherein the product is detected through a modulation of fluorescence.

12. A method as recited in claim 10 or 11, wherein said amino acid residue at position P_1' is aspartic acid.

13. A method as recited in any one of claims 10 to 12, wherein said amino acid residue at position P_2' is selected from the group consisting of a hydrophobic, an acidic and a polar amino acid residues.

14. A method as recited in any one of claims 10 to 12, wherein said amino acid residue at position P_2' is selected from the group consisting of an asparagine, a glutamine, a methionine, an alanine, a valine, a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine, and an isoleucine residues.

15. A method as recited in any one of claims 10 to 12, wherein said amino acid residue at position P_2' is selected from the group consisting of a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine and an isoleucine residues.

16. A method as recited in any one of claims 10 to 12, wherein said amino acid residue at position P_2 is not an arginine, a lysine, an asparagine or a glutamine residue.

17. A method as recited in claim 10, wherein P_2-P_1-P_1'-P_2' is as set forth in SEQ ID NO:2.

18. A method as recited in claim 11, wherein the fluorophore unit is Abz and the quencher unit is Dnp, and wherein Dnp is attached to a lysine residue.

19. A method as recited in claim 10, wherein the PHEX substrate has the chemical structure Abz-(SEQ ID NO:3)-Dnp.

20. A method as recited in any one of claims 10 to 19, wherein the modulator is an inhibitor, and wherein a lower amount of said product detected in the presence of said candidate compound as compared to that in the absence thereof is an indication that said candidate compound inhibits PHEX.

21. A method for determining the presence and/or concentration of PHEX in a sample comprising

contacting said sample with a PHEX peptide substrate, said substrate including a peptide unit of at least 6 amino acids residues including a sequence P_2-P_1-P_1'-P_2' of 4 amino acid residues at positions P_2, P_1, P_1' and P_2' of the peptide unit, respectively; the amino acid residue at position P_2 being any amino acid residue; the amino acid residue at position P_1 being any amino acid residue except an isoleucine, a valine, or a histidine residue; the amino acid residue at position P_1' being an acidic amino acid residue selected from the group consisting of a glutamic acid and an aspartic acid residue; the amino acid residue at position P_2' being any amino acid residue except a leucine, a proline or a glycine residue, with the proviso that said peptide does not have the sequence as set forth in SEQ ID NO:1;

assessing the presence and/or concentration of a product resulting of the PHEX enzymatic activity on said substrate; and

wherein the presence and/or concentration of said product can be correlated to the presence/concentration of PHEX in the sample.

22. A method as recited in claim 21, wherein said PHEX substrate further comprises a fluorophore unit capable of conferring fluorescence on said substrate, said fluorophore unit being attached to an amino acid residue at a first end of the peptide unit; and a quencher unit

capable of providing intramolecular quenching of said fluorescence, said quencher unit being attached to an amino acid residue at a second end of the peptide unit, wherein P_1' is located at least 2 amino acid residues distal to both the fluorophore unit and the quencher unit and wherein the product is detected through a modulation of fluorescence.

23. A method as recited in claim 21 of 22, wherein said amino acid residue at position P_1' is aspartic acid.

24. A method as recited in any one of claims 21 to 23, wherein said amino acid residue at position P_2' is selected from the group consisting of a hydrophobic, an acidic and a polar amino acid residues.

25. A method as recited in any one of claims 21 to 23, wherein said amino acid residue at position P_2' is selected from the group consisting of an asparagine, a glutamine, a methionine, an alanine, a valine, a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine, and an isoleucine residues.

26. A method as recited in any one of claims 21 to 23, wherein said amino acid residue at position P_2' is selected from the group consisting of a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine and an isoleucine residues.

27. A method as recited in any one of claims 21 to 26, wherein said amino acid residue at position P_2 is not an arginine, a lysine, an asparagine or a glutamine residue.

28. A method as recited in claim 21 or 22, wherein P_2-P_1-P_1'-P_2' is as set forth in SEQ ID NO:2.

29. A method as recited in claim 22, wherein the fluorophore unit is Abz and the quencher unit is Dnp, and wherein Dnp is attached to a lysine residue.

30. A method as recited in claim 21, wherein the PHEX substrate has the chemical structure Abz-(SEQ ID NO:3)-Dnp.

31. A fluorogenic PHEX substrate comprising

a peptide unit;

a fluorophore unit capable of conferring fluorescence on said substrate, said fluorophore being attached to an amino acid residue at a first end of the peptide unit; and

a quencher unit capable of providing intramolecular quenching of said fluorescence, said quencher being attached to an amino acid residue at a second end of the peptide unit;

the peptide unit comprising the sequence P_3-P_2-P_1-P_1'-P_2'-P_3' of amino acid residues at positions P_3, P_2, P_1, P_1', P_2', and P_3' of the peptide unit, respectively; the amino acid residue at position P_2 being any amino acid residue; the amino acid residue at position P_1 being any amino acid residue except an isoleucine, a valine, or a histidine residue; the amino acid residue at position P_1' being an acidic amino acid residue selected from the group consisting of a glutamic acid residue and an aspartic acid residue; the amino acid residue at position P_2' being any amino acid residue except a leucine, a proline or a glycine residue, with the proviso that said peptide unit does not have the sequence as set forth in SEQ ID NO:1.

32. A fluorogenic PHEX substrate as recited in claim 31, wherein said amino acid residue at position P_1' is aspartic acid.

33. A fluorogenic PHEX substrate as recited in claim 31 or claim 32, wherein said amino acid residue at position P_2' is selected from the group consisting of a hydrophobic, an acidic and a polar amino acid residues.

34. A fluorogenic PHEX substrate as recited in any one of claims 31 and 2, wherein said amino acid residue at position P_2' is selected from the group consisting of an asparagine, a glutamine, a methionine, an alanine, a valine, a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine, and an isoleucine residues.

35. A fluorogenic PHEX substrate as recited in any one of claims 31 and 32, wherein said amino acid residue at position P_2' is selected

from the group consisting of a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine and an isoleucine residues.

36. A fluorogenic PHEX substrate as recited in any one of claims 31 to 35, wherein said amino acid residue at position P_2 is not an arginine, a lysine, an asparagine or a glutamine residue.

37. A fluorogenic PHEX substrate as recited in any one of claims 31 to 36, wherein said P_2-P_1-P_1'-P_2' is as set forth in SEQ ID NO:2.

38. A fluorogenic PHEX substrate as recited in any one of claims 31 to 37, wherein the fluorophore unit is Abz and the quencher unit is Dnp, and wherein Dnp is attached to a lysine residue.

39. A method for identifying a PHEX modulator comprising contacting a candidate compound with PHEX in the presence of the fluorogenic PHEX substrate of claim 31;

detecting a product resulting of the PHEX enzymatic activity on said substrate; and

wherein a difference in the amount of said product detected in the presence of said candidate compound as compared to that in the absence thereof is an indication that said candidate compound modulates PHEX.

40. A method for determining the presence and/or concentration of PHEX in a sample comprising contacting said sample with the fluorogenic PHEX substrate of claim 31;

detecting a product resulting of the PHEX enzymatic activity on said substrate; and

wherein a difference in the amount of said product detected in the presence of said candidate compound as compared to that in the absence thereof is an indication that said candidate compound modulates PHEX.

41. A method as recited in claim 39 or 40, wherein said amino acid residue at position P_1' is aspartic acid.

42. A method as recited in any one of claims 39 to 41, wherein said amino acid residue at position P_2' is selected from the group consisting of a hydrophobic, an acidic and a polar amino acid residues.

43. A method as recited in any one of claims 39 to 41, wherein said amino acid residue at position P_2' is selected from the group consisting of an asparagine, a glutamine, a methionine, an alanine, a valine, a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine, and an isoleucine residues.

44. A method as recited in any one of claims 39 to 41, wherein said amino acid residue at position P_2' is selected from the group consisting of a tryptophan, a threonine, a serine, a tyrosine, a phenylalanine and an isoleucine residues.

45. A method as recited in any one of claims 39 to 44, wherein said amino acid residue at position P_2 is not an arginine, a lysine, an asparagine or a glutamine residue.

46. A method as recited in claim 39 or 40, wherein P_2-P_1-P_1'-P_2' is as set forth in SEQ ID NO:2.

47. A method as recited in any one of claims 39 to 46, wherein the fluorophore unit is attached to P_3 and the quencher unit is attached to P_3'.

48. A method as recited in claim 47 wherein the fluorophore unit is Abz, the quencher unit is Dnp, and P_3' is a lysine residue.